Amendments to the Drawings:

Applicant has amended Figure 1 to add comparison unit 132, and has formalized Figures 1-4. The attached four (4) sheets of replacement drawings replace the original sheets of drawings having Figures 1-4 thereon.

Attachments: Four (4) sheets of replacement drawings with Figures 1-4 thereon.

REMARKS

Claims 1-20 are pending in the subject application.

Applicants have amended claims 1 and 16 to provide proper antecedent basis for the "current process" specified in these claims. In addition, Applicants have amended the specification and drawings. As explained in more detail below, these changes do not introduce any new matter.

In response to the objection to the drawings, Applicants have amended Figure 1 to include the comparison unit (see comparison unit 132 in Figure 1). In addition, Applicants have amended the specification to include references to comparison unit 132 where needed. The changes made to Figure 1 and the specification involve only subject matter that is included in the original specification and claims. Accordingly, the changes to Figure 1 and the specification do not introduce any new matter. In light of the changes made herein, Applicants submit that the drawings now comply with 37 C.F.R. § 1.83(a) and request that the objection to the drawings thereunder be withdrawn.

Applicants respectfully request reconsideration of the rejection of claims 1-20 under 35 U.S.C. § 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over *Karasawa* (U.S. Patent Publication No. US 2004/0073405 A1). As will be explained below, the *Karasawa* reference neither discloses nor suggests the subject matter defined in independent claims 1 and 16.

Independent claim 1 defines a system for monitoring wafer throughput per hour in a wafer furnace. The system includes a database that includes two or more operation histories of the wafer furnace, an analysis unit that includes logic for performing the specified functions, a comparison unit, which is coupled to the analysis unit and includes logic that compares the standard process time to the current process time, and an output unit, which is coupled to the comparison unit and outputs a comparison result. In support of the rejection,

the Examiner asserts that the *Karasawa* reference discloses "all the claimed elements of a system for monitoring wafer throughput per hour (figure 1), including a database (29), an analysis unit (27), a comparison unit (27) and an output unit (30/31), except positively disclosing having logic to perform the claimed function." Office Action at page 3. Applicants respectfully traverse the Examiner's characterization of the *Karasawa* reference relative to the subject matter defined in claim 1.

The *Karasawa* reference discloses a system for improving apparatus productivity in which a vendor-side computer performs remote monitoring of the apparatus based on operating state data obtained by a monitoring device to determine when trouble occurs in the apparatus. In this system, the apparatus sends maintenance data relating to part replacement to the vendor-side computer. The vendor-side computer calculates the optimal replacement period of the part based on the maintenance data, converts the replacement period into database form and stores this information. The user side receives the replacement period information and uses this information in combination with the operation plan of the apparatus to provide preventive maintenance in an efficient manner. By reducing the amount of stop time required for preventive maintenance, the system of *Karasawa* enables an apparatus to be operated at a higher operation rate.

In contrast with the system defined in claim 1, the system of *Karasawa* has nothing to do with the monitoring of wafer throughput per hour in a wafer furnace. As noted above, the *Karasawa* system instead focuses on monitoring an apparatus to determine when trouble occurs so that stop time required for maintenance can be minimized. With regard to the elements of the system defined in claim 1, the *Karasawa* reference does not disclose an analysis unit as claimed for at least the reason that there is no disclosure in the reference regarding the monitoring of process time for a wafer furnace process. The *Karasawa* reference does not disclose a comparison unit as claimed for at least two reasons. First, as

specified in claim 1, the comparison unit is coupled to the analysis unit. In support of the rejection, the Examiner relies on central processing unit (CPU) 27 shown in the *Karasawa* reference as being both the claimed analysis unit and the claimed comparison unit. Applicants submit that a CPU cannot reasonably be considered to be coupled to itself. Thus, if the CPU is deemed to be the claimed analysis unit, then the *Karasawa* reference does not disclose a comparison unit as claimed. Second, as there is no disclosure in the *Karasawa* reference regarding the monitoring of the process time of a wafer furnace process, the *Karasawa* reference necessarily does not disclose the claimed logic for comparing a standard process time to the current process time of the wafer furnace process. As such, for at least the foregoing reasons, the *Karasawa* reference does not disclose each and every feature specified in claim 1.

Regarding the alleged obviousness of the subject matter defined in claim 1 in view of the *Karasawa* reference, as noted above, the focus of the *Karasawa* reference is the monitoring of an apparatus to determine when trouble occurs so that preventive maintenance can be efficiently provided to minimize stop time. Nothing in the *Karasawa* reference relates to the monitoring of wafer throughput per hour in a wafer furnace. As such, the requisite motivation to modify the system of *Karasawa* to monitor wafer throughput per hour in a wafer furnace is lacking. Thus, for at least this reason, the *Karasawa* reference does not raise a *prima facie* case of obviousness against the subject matter defined in claim 1.

Accordingly, for at least the foregoing reasons, claim 1 is patentable under 35 U.S.C. §§ 102(e) and 103(a) over *Karasawa*. Claims 2-15, which depend either directly or indirectly from claim 1, are likewise patentable under 35 U.S.C. §§ 102(e) and 103(a) over *Karasawa* for at least the same reasons set forth above regarding claim 1.

Considering next method claims 16-20, in support of the rejection of claims 16-20, the Examiner asserts that the "already modified system of Karasawa inherently possesses the

method for monitoring wafer throughput per hour." Office Action at page 4. A rejection based on inherency is proper only if the allegedly inherent features are necessarily found in the applied prior art (see MPEP § 2112, Section IV). As discussed above, the *Karasawa* reference is silent as to the monitoring of wafer throughput per hour in a wafer furnace. As such, Applicants see no reasonable basis for an allegation that the system of *Karasawa* *necessarily* performs the method operations specified in either independent claim 16 or claims 17-20, which depend from claim 16. Accordingly, claims 16-20 are patentable under 35 U.S.C. §§ 102(e) and 103(a) over *Karasawa.*

In view of the foregoing, Applicants respectfully request reconsideration and reexamination of claims 1-20, as presented herein, and submit that these claims are in condition for allowance. Accordingly, a notice of allowance is respectfully requested. In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at **(408) 749-6902**. If any fees are due in connection with the filing of this paper, then the Commissioner is authorized to charge such fees to Deposit Account No. 50-0805 (Order No. MXICP016).

Respectfully submitted,
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